

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): An incoming and outgoing call terminal on a duplicate private network; that includes a primary private network constituted by a gatekeeper and a plurality of gateways and a secondary private network constituted by a gateway and a plurality of incoming and outgoing call terminals, comprising:

an outgoing call transmission unit that receives a calling number, creates an outgoing call including information of the received calling number, and transmits the outgoing call to a gateway having a first private internet protocol (IP) address, which is an address of a relay of the duplicate private network, if a second private IP address, which is an address of an exit of the duplicate private network, is allotted to the incoming and outgoing call terminal;

an outgoing call setting requesting message transmission unit that creates a message requesting the setting of an outgoing call and transmits the message to the gateway if the outgoing call transmission unit transmits the outgoing call to the gateway; and

an incoming call reception unit that receives an incoming call from the gateway if the second private IP address allotted to the incoming and outgoing call terminal is an incoming internal private IP address, which is translated from an incoming internal public IP address by a network address translator (NAT) server, wherein the incoming internal public IP address is destination information corresponding to called number information included in the incoming call and the address of an entrance of the duplicate private network.

2. (Original) The incoming and outgoing call terminal of claim 1 further comprising:

a private IP address allocation requesting message transmission unit that creates a message requesting private IP address allocation, including information of incoming and outgoing call terminals, directly connected to the gateway, to which private IP addresses are not allotted, and transmits the message to the gateway unless the second private IP address is allotted to the incoming and outgoing call terminal; and

a second private IP address allocation reception unit which is allotted the second private IP address from the gateway in response to the reception of the message requesting private IP address allocation.

3. (Original) The incoming and outgoing call terminal of claim 2, wherein the outgoing call and the incoming call are voice-over-IP (VoIP) calls.

4. (Original) The incoming and outgoing call terminal of claim 1 further comprising:

a private IP address deletion requesting message transmission unit that creates a message requesting private IP address deletion, including information of a private IP address that is no longer in use, and transmits the message to the gateway if the second private IP address allotted to the incoming and outgoing call terminal is no longer in use; and

a second private IP address deletion reception unit, from which the gateway deletes the second private IP address in response to the reception of the message requesting private IP address deletion.

5. (Original) The incoming and outgoing call terminal of claim 4, wherein the outgoing call and the incoming call are voice-over-IP (VoIP) calls.

6. (currently amended): A method of enabling an outgoing call and receiving an incoming call in an incoming and outgoing call terminal on a duplicate private network that includes a primary private network constituted by a gatekeeper and a plurality of gateways and a secondary private network constituted by a gateway and a plurality of incoming and outgoing call terminals, comprising:

(a) receiving a calling number, creating an outgoing call including information of the received calling number, and transmitting the outgoing call to a gateway having a first private IP address, which is an address of a relay of the duplicate private network, if a second private IP address, which is an address of an exit of the duplicate private network, is allotted to the incoming and outgoing call terminal;

(b) creating a message requesting the setting of an outgoing call and transmitting the message to the gateway if the outgoing call is transmitted to the gateway; and

(c) receiving an incoming call from the gateway if the second private IP address allotted to the incoming and outgoing call terminal is an incoming internal private IP address, into which an incoming internal public IP address is translated by a network address translator (NAT) server, wherein the incoming internal public IP address is destination information corresponding to called number information included in the incoming call and the address of an entrance of the duplicate private network.

7. (Original) The method of claim 6 further comprising:

(d) creating a message requesting private IP address allocation, including information of incoming and outgoing call terminals, directly connected to the gateway, to which private IP addresses are not allotted, and transmitting the message to the gateway unless the second private IP address is allotted to the incoming and outgoing call terminal; and

(e) allotting the second private IP address from the gateway to the incoming and outgoing call terminal in response to the reception of the message requesting private IP address allocation.

8. (Original) The method of claim 7, wherein the outgoing call and the incoming call are voice-over-IP (VoIP) calls.

9. (Original) The method of claim 6 further comprising:

(d) creating a message requesting private IP address deletion, including information of a private IP address that is no longer in use, and transmitting the message to the gateway if the second private IP address allotted to the incoming and outgoing call terminal is no longer in use; and

(e) the gateway deleting the second private IP address from the incoming and outgoing call terminal in response to the reception of the message requesting private IP address deletion.

10. (Original) The method of claim 9, wherein the outgoing call and the incoming call are voice-over-IP (VoIP) calls.

11-23. (withdrawn).

24. (currently amended): ~~A computer-readable recording medium, on which a program enabling~~ A computer-readable recording medium encoded with computer executable instructions which enable a computer to perform the method of claim 6 ~~is recorded.~~

25-27. (withdrawn).

28. (new): The incoming and outgoing terminal of claim 1, wherein the duplicate private network is a local area network (LAN) comprising the incoming and outgoing call terminal, the gateway and a gatekeeper.

29. (new): The incoming and outgoing terminal of claim 28, wherein the LAN comprises a primary LAN including the gateway and the gatekeeper and secondary LAN including the gateway and the incoming and outgoing call terminal.

30. (new): The incoming and outgoing terminal of claim 29, wherein the gatekeeper is an entrance of the duplicate private network, the gateway is a relay node of the duplicate private network and the incoming and outgoing terminal is an exit the duplicate private network.

31. (new): The incoming and outgoing terminal of claim 1, wherein the gateway is in charge of the second private IP address allocation.